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THE PRESIDENT'S COLUMN

Postgraduate Medical Education

BY JOSEPH BANK, M. D., PHOENIX

The demand and participation of physicians in postgraduate medical education has grown rapidly in recent years. In order to analyze and evaluate the multiple factors involved in this type of medical education, the American Medical Association endorsed a two and a half year survey, the results of which are now appearing in a series of articles in the Journal. There are many problems to be considered in order to make postgraduate training most effective and available. One of these is the distance physicians must travel to teaching centers with consequent loss of time from practice. The most desirable courses are the short courses, about one week in duration. In an area like the Southwest, medical centers are located at great distances from physicians offices. To the majority of physicians in this area the necessary time involved in long distance travel to medical centers is disproportionate to the comparatively brief period of instruction.

Dr. Bank

Educational Facilities

It is for this reason that the educational facilities provided by meetings like the annual convention of the Southwestern Medical Association are of especial value. In this three day conference the teachers are brought to the students. The practicing physician is brought in contact each year with successive groups of leaders in American medicine who possess unusual qualifications as teachers. In addition to instruction, the physician obtains inspirational values from personal contact with the visiting instructors. The material is presented in the form of lectures and panels for the most part. In addition, seminars are held in smaller groups where "brain-picking" may be conducted informally. Direct contact with questions and answers is of inestimable value to the practicing physician who may acquire in minutes information unobtainable in hours of reading, or get a view of material not yet published.

Two Hour Seminar

An example of this method of instruction was the two hour seminar given by Doctor Lester Dragstedt to about twenty surgeons during the meeting of the Arizona State Medical Association just concluded in Tucson. Here, seated around a table, a personal interview was conducted between the physicians and one of the authorities on the surgery of gastroduodenal ulcer. The discussion period was supplemented with a sound film. The interplay of ideas between the members of the group went a long way toward the ultimate solution of the problem under discussion. Many medical educators believe the seminar method to be the most effective form of postgraduate education.

The Southwestern Medical Association hopes to have another successful conference devoted to postgraduate instruction this year. It will be held in Phoenix, November 16, 17 and 18. It will present to the doctors of this area foremost authorities in various fields of medicine. It would be well for every physician to plan for time out during this period and take advantage of the opportunity that comes to his doorstep.

CURRENT THERAPY

Notes from the meeting of the American College of Physicians Thirty Sixth Annual Session - Philadelphia, Pennsylvania, April 25 - 29, 1955.

By Jack A. Bernard, M. D., El Paso

In the panel on hypertension, moderated by Dr. Garfield Duncan, the long term value of the hypotensive agents was discussed. One member of the panel reported a marked decrease of malignant cases of hypertension seen in his clinic. He reported that the number of cases seen in his clinic had dropped from 77 cases seen in one year to a total of five cases seen the past year. He felt that this decrease was due to the more general usage of hypotensive drugs.

In discussing the ganglionic blockers, it was pointed out that hydralazine (Apresoline) had been shown in laboratory experiments to counteract a tensive substance found in the blood of some hypertensive patients, whereas the other drugs tried would not. Also hydralazine is unique in that it dilates the renal vessels while lowering the blood pressure. Clinically the dosage used was 25 to 50 mg. three or four times daily. Very little toxicity resulted from the small doses used and were reversible in most instances upon withdrawal of the drug. However, careful and adequate follow-up on all patients was repeatedly emphasized.

Hexamethonium

Hexamethonium is recommended in acute emergencies; i.e. subarachnoid hemorrhage or disecting aneurysm with high blood pressure, as hexamethonium intravenously produces more rapid response than pentolinium (Ansolysen). A newer shorter acting compound for such cases was mentioned as having shown a possibly better survival rate and will soon be available for general clinical use.

For oral long term therapy, Ansolysen was preferred. It was pointed out that variations in response depend on many factors, such as salt intake, constipation, diuresis, vomiting or diarrhea.

Finally, it was stressed that abandonment of treatment in patients was extremely dangerous in that patients may abruptly go into failure and expire. Again, careful follow-up and careful instruction of patients was stressed.

In the panel session on Ballistocardiography with moderator Dr. Benjamin Baker, Jr., there was considerable discussion whether the instrument was ready for general clinical use. It was pointed out that present machines and methods are very crude but improvements are rapidly being made. It was felt that the method was very useful and helpful in investigating the effects of various vasodilators and other cardiac drugs; for example, to test the effects of nitroglycerin and other newer vasodilators, and also digitalis. The most dramatic effect is produced by recording the effect of cigarette smoking in coronary patients.

In the panel on Diabetes with Dr. Arthur R. Colwell, it was noted that NPH has replaced Protamine Zinc Insulin in most instances. Lente is interchangeable with NPH. Being free from foreign protein, it is less allergic with less frequent local reactions, but still there is an occasional patient sensitive to Lente.

The question was asked whether a patient with a fasting blood sugar 150-200 but negative urines should take insulin, and the answer was in the affirmative.

Masked Pernicious Anemia

Dr. Conley (New Developments in the Diagnosis and Treatment of Pernicious Anemia) discussed the occurrence of neurologic manifestations—subacute combined degeneration—in cases of masked pernicious anemia patients who had been taking vitamins with folic acid. They may even show a normal blood and bone marrow. Improvement occurred with huge doses of parenteral B_{12}.

His group has treated pernicious anemia patients satisfactorily on oral B_{12}: 3,000 to 10,000 micrograms initially and 1,000 micrograms for maintenance, but he advises parenteral therapy.

Dr. Polley (Chronic Hypercortisonism) suggested that the following maintenance dosage is recommended to avoid chronic hypercortisonism: Children, less than 10 mgm.

(Continued on page 273)

APHORISMS and MEMORABILIA

Truths and Concepts Concerning the Cardiovascular System

BY ANDREW M. BABEY, M.D., LAS CRUCES, N. M.

(Continued)

23. "Of all the ionic alterations encountered in man, those due to potassium have the most pronounced effects on the heart." Bernard Lown and Samuel A. Levine, *loc. cit.*, p. 820.

24. "A profound relation exists between digitalis and potassium. Digitalis affects the potassium concentration of the myocardial cell. There is general agreement that toxic doses of digitalis liberate potassium from heart muscle." Bernard Lown and Samuel A. Levine, *loc. cit.*, p. 820.

25. "It has been reported that potassium salts also eliminate the symptoms of overdosage and rapidly promote a sense of well-being in patients with digitalis poisoning." Bernard Lown and Samuel A. Levine, *loc. cit.*, p. 820.

26. "There is evidence that during the development of failure potassium is lost from the body . . . . . The decrease in potassium is most marked in the chambers of the heart that are failing . . . . . The edematous patient who has been on rigid salt restriction for a long time is more likely to respond to mercurial agents with increased potassium diuresis. The patient with advanced failure is therefore more likely to experience serious losses of potassium . . . . . The protracted administration of ammonium chloride by itself may result in potassium depletion . . . . . It has been demonstrated, however, that the loss of potassium significantly affects the body's threshold to the toxic action of digitalis and may be an important cause for the rising incidence of digitalis toxicity." Bernard Lown and Samuel A. Levine, *loc. cit.*, p. 820-821.

27. "The postmercurial redigitalization phenomenon may be defined as a state of increased myocardial sensitivity to the toxic properties of digitalis resulting from a negative potassium balance precipitated by diuretic therapy. In its presence digitalis should be discontinued and potassium administered by mouth until the evidence of overdosage disappears. Serious disturbances of rhythm and even death will be prevented if diuretics are withheld when the patient gives any evidence of digitalis intoxication." Bernard Lown and Samuel A. Levine, *loc. cit.*, p. 823.

28. "When the serum potassium level is depressed, even small amounts of digitalis can prove fatal." Bernard Lown and Samuel A. Levine, *loc. cit.*, p. 823.

29. "It can be concluded that dogs depleted of potassium respond to digitalis in a manner similar to that observed in the cardiac patient in failure: there is a significant reduction in the dose that will cause intoxication; toxicity once produced is of prolonged duration, and there is an appearance of multifocal ventricular rhythms." Bernard Lown and Samuel A. Levine, *loc. cit.*, p. 824.

30. "A slow irregular ventricular rhythm with intraventricular block and atrial paralysis strongly suggests potassium poisoning." Bernard Lown and Samuel A. Levine; *loc. cit.*, p. 826.

31. "When the ventricular rate of a patient with longstanding fibrillation accelerates and regularizes after a diuresis or an increased dose of digitalis, tachycardia with block should be suspected." Bernard Lown and Samuel A. Levine; *loc. cit.*, p. 832.

32. "...that treatment should not be delayed and that, for the purpose of initiating therapy, the results of the blood culture should be eliminated from the criteria for the diagnosis of subacute bacterial endocarditis." Maxwell Finland, *The New England Journal of Medicine*, March 11, 1954, p. 422.

33. "The risk of having an attack of subacute bacterial endocarditis after any single tooth extraction in a susceptible patient with cardiac disease is approximately 1:533." M. Finland, *loc. cit.*, p. 425.

34. "When a diagnosis of a splenic abscess is made or suspected in a patient under treatment or after therapy for baterial endocarditis, splenectomy may be a useful and even lifesaving procedure." M. Finland, *loc. cit.*, p. 426.

35. "We believe that most cases of refractory heart failure will be found to fall into two groups. There is the group in which the heart disease has progressed to a point where cardiac output has fallen so far as to be inadequate to maintain sufficient renal func-

tion. This is the terminal phase in the natural history of the heart disease. There is the other group in which one may have failed to recognize associated and complicating factors which may be brought under control. One cannot overemphasize the importance of thyrotoxicosis in this respect. Constrictive pericarditis is one of the conditions which is often overlooked. Primary hepatic or renal disease not uncommonly complicates the picture. One should of course mention the fact that before the patient is regarded as truly refractory, it is imperative to examine and re-examine the total regimen of treatment to insure that the various measures have been adequately applied." Hugh Luckey, *The American Journal of Med.* January, 1954, p. 120-121.

36. "It is not always easy to interpret a two-step or anoxemia test. Mere changes in heart rate can bring about changes in the ventricular gradient of a normal heart with depression of the RS-T segment and/or inversion of the T wave. It requires considerable experience or a better skill in the measurement of the gradient than most of us possess to be able to evaluate minor changes. Consequently one is frequently forced to report the test as inconclusive or doubtful." H. Levine; *American Journal of Medicine,* Sept., 1953; p. 352.

37. "The cure rate in enterococcal endocarditis now approximates that obtained in endocarditis caused by penicillin-sensitive streptococci." J. E. Geraci and W. J. Martin; *Circulation;* August, 1954; p. 190.

38. "Inasmuch as enterococcal endocarditis follows urologic procedures quite frequently, it is recommended that all such patients with or without a heart murmur be given a million units of penicillin and 1 Gm. of streptomycin or dihydrostreptomycin every 12 hours beginning the day before operation and continuing postoperatively until the day after the urethral catheter has been removed. We have not known enterococcal endocarditis to complicate urologic manipulation when this antibiotic prophylactic program has been followed." J. E. Geraci and W. J. Martin; *loc. cit.;* p. 191.

39. "Life Insurance experience indicates that applicants with the Wolff-Parkinson-White syndrome are not standard risks in that their mortality rate is approximately three times the normal." L. Wolff; *Circulation;* Aug. 1954; p. 290.

40. "We think that operations on the mitral valve for any reason but the relief of symptoms are not justified." W. G. Bigelow and W. F. Greenwood; *The Surgical Clinics of North America* — 1954; p. 877.

41. "It was decided that as a general rule operation should be done as early as possible in pregnancy so that the patient would be well recovered from the operation by the time pregnancy imposed a load on the heart." Bigelow and Greenwood; *loc. cit.;* p. 879.

42. "There appears to be no evidence that a diastolic murmur along the left sternal border, unaccompanied by a big left ventricle or a wide pulse pressure, will in any way adversely affect the result of the operation." Bigelow and Greenwood; *loc. cit.;* p. 880.

43. "Thus if other factors are favourable, moderate enlargement does not exclude a patient as a candidate for surgery." Bigelow and Greenwood; *loc. cit.;* p. 881.

44. "Systolic expansion of the left atrium as judged by movement of the barium-filled oesophagus in the right anterior oblique view is an unreliable sign of mitral regurgitation." Bigelow and Greenwood; *loc. cit.,* p. 881.

45. "Procaine is used only locally on the heart or intravenously in cases of marked myocardial irritability. We now consider procaine administered intravenously to be a dangerous myocardial depressant in patients with advanced disease and very large hearts." Bigelow and Greenwood; *loc. cit.;* p. 883.

46. "There remains for consideration a group of patients destined to develop cardiac arrhythmia during operation in spite of a normal exercise tolerance, no aortic stenosis, and no heart block. Prophylactic quinidine has fallen from favor because of undesirable side effects and because of a growing conviction that cardiac arrest in a quinidinized patient is especially refractory to restoration of cardiac rhythm by massage." Champ Lyons; *Surgery;* February, 1954; p. 293.

47. "Most cases of cardiac arrest described in the literature or that we have seen personally in the last two years, are due to ventricular asystole. A small proportion apparently does result from ventricular fibrillation." Paul M. Zoll; *American Practitioner;* Sept., 1954; p. 738.

48. "But the general opinion seems to be that perhaps 90 per cent are due to ventricular standstill, a rather important point in considering how to treat the patient." P. Zoll; *loc. cit.;* p. 738.

49. "The major purpose for which we have used stimulating current so far has been in medical patients with Stokes-Adams disease. We have now treated over 20 patients with the repeated syncope of Stokes-Adams disease, and have produced effective

cardiac response in all but one patient." P. Zoll; *loc. cit.;* p. 739.

50. "Most of the patients we have had in this hospital who have had cardiac arrest from anoxia and who have been resuscitated have had severe cerebral damage. They died within a few days or months; in one instance one man lived on for four months in coma." Bernard Briggs; *loc. cit;* p. 740.

51. "Enlargement of both ventricles may be seen in large ventricular septal defects but is unusual in a small ventricular septal defect." Noble Fowler;*The American Journal of Medicine*; September, 1954; p. 324.

52. "Some patients with ventricular tachycardia are very sensitive and others exceedingly resistant to quinidine." Harry Gold; *The American Journal of Medicine;* September, 1954; p. 396.

53. "When a daily dosage level around 3 gm. is reached, it is well to check with the electrocardiogram, made after the total dose for that day, for prolongation of the QRS time. In some patients doses as high as 6 gm. a day are tolerated without this effect but in others the spreading of the QRS time occurs fairly early." H. Gold; *loc. cit.;* p. 397.

54. "Impairment of intraventricular conduction as shown by prolongation of the QRS time is one indication for interruption of the drug. We do not know exactly where to place the danger point and we have arbitrarily adopted the position that a prolongation of the QRS time to that of 0.12 second or more, the picture of bundle branch block, should not be allowed to continue. If this occurs before normal rhythm is restored, it is safer to regard this as a therapeutic failure for quinidine." H. Gold; *loc. cit.;* p. 397.

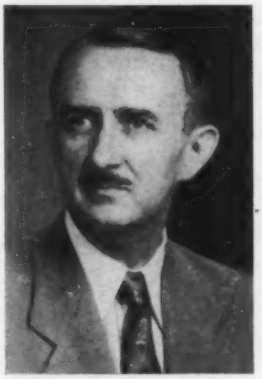
55. "The appearance of any unexpected disturbance of rhythm during quinidine medication calls for at least temporary cessation of the drug and an electrocardiogram to ascertain the nature of the disturbance." H. Gold; *loc. cit.;* p. 398.

56. "The common E. C. G. changes due to digitalis — namely, depression of the S-T segment and inversion of the first part of the T wave — give no indication of whether the drug is being given in optimal dosage, and conversely severe digitalis poisoning may occur without these changes." *The Lancet;* November 6, 1954; p. 956.

57. "Patients with mild hypertension require reassurance, and though perhaps kept under observation from year to year, they should not be infected with their physician's anxiety." *British Medical Journal;* November 20, 1954; p. 1192.

Dr. Breck Named President of Bone and Joint Association

Dr. Louis W. Breck of El Paso was named president of the Association of Bone and Joint Surgeons at a recent meeting in Norfolk, Virginia.



Dr. Louis W. Breck

A native El Pasoan Dr. Breck attended college at Texas Western College and the University of Chicago and received his M.D. degree from Northwestern University.

He interned at El Paso General Hospital and St. Mary's Help Hospital in San Francisco and for two years was assistant resident surgeon at San Quentin Prison. He followed this with a fellowship in orthopedic surgery at the Mayo Clinic in Rochester and set up practice in El Paso in 1937. During World War II he served in the Army as chief of the orthopedic section of the regional hospital at Camp Swift, Texas, and was discharged as a lieutenant colonel.

Dr. Breck is a diplomate of the American Board of Orthopedic Surgery. He is past president of the Texas Orthopedic Association and of the Southwestern Medical Association. He is a member of the fracture committee of the American Academy of Orthopedic Surgeons. He is managing editor of Southwestern Medicine.

SOUTHWESTERN MEETING NOV. 16-18 IN PHOENIX

▼

Annual Conference of the Southwestern Medical Association has been scheduled for November 16, 17 and 18 in Phoenix, Dr. Joseph Bank, Association president, has announced.

Dr. Earl Malone New President of New Mexico Medical Society

Dr. Earl L. Malone of Roswell, New Mexico, was elected president of the New Mexico Medical Society at the 73rd annual meeting of the Society in Albuquerque, May 4 through 6. He succeeds Dr. John Conway of Clovis, New Mexico.

Other officers elected at the meeting, which was held in conjunction with the eighth Rocky Mountain Medical Conference, were Dr. Stuart W. Adler, Albuquerque, president-elect; Dr. S. R. Ziegler of Espanola, N. M., vice-president; and Dr. Lewis M. Overton, Albuquerque, secretary-treasurer.

Dr. Wesley O. Connor of Albuquerque and Dr. James C. Sedgwick of Las Cruces were re-elected councillors.

Born in Austin, Texas, in 1914, Dr. Malone attended Roswell, N. M., schools, the University of Oklahoma and the University of Texas, and received his M. D. from Baylor College of Medicine in Dallas. He took his internship and residency at Scott and White Hospital in Temple, Texas.

Dr. Earl L. Malone

He began the practice of medicine in Roswell as a general practitioner in 1942 but he left Roswell eight months later to enter the U. S. Air Force as a flight surgeon. He was in the service for three and one-half years, 18 months of which were served in the European Theater of Operations. He emerged from the service with the rank of captain and resumed his practice in Roswell. His associate in Roswell is Dr. F. R. Brown.

Dr. Malone is vice-president of the Southwestern Medical Association and a past president of the New Mexico Chapter of the American Academy of General Practice. He has served as chairman of the New Mexico Medical Society's committee on public relations and as chairman of the Society's Board of Supervisors. He is a member of the Rotary Club, Sigma Nu Fraternity, Theta Kappa Psi Fraternity, Skull and Key, and the First Baptist Church of Roswell. He is married and has two girls and a boy.

In a brief address on assuming the presidency, Dr. Malone quoted as follows from the Society's constitution in expressing the nature of his program for the coming year:

Brief Address

"The purpose of the New Mexico Medical Society shall be to federate and bring into one compact organization the entire medical profession of the State of New Mexico, and to unite with similar societies of other states to form the American Medical Association; to extend medical knowledge and advance medical science; to elevate the standard of medical education, and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the material interest of its members and to protect them against imposition; and to enlighten and direct public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public, in the prevention and cure of disease, and in prolonging and adding comfort to life."

Special Picture Report

NEW MEXICO STATE MEDICAL SOCIETY MEETING

ELECT NEW OFFICERS FOR NEW MEXICO SOCIETY

New officers for the New Mexico State Medical Society were elected at the annual meeting May 4-6 in Albuquerque. The new officers are, left to right: Dr. Stuart W. Adler of Albuquerque, president-elect; Dr. John Conway of Clovis, retiring president; Dr. Earl L. Malone of Roswell, new president; Dr. S. R. Ziegler, of Espanola, vice-president, and Dr. Lewis W. Overton of Albuquerque, secretary-treasurer.

G P'S ELECT SLATE AT ANNUAL MEETING

Officers for the New Mexico Chapter of the American Academy of General Practice were also elected at the Albuquerque meeting. Shown here, left to right, first row, are: Dr. Jose A. Rivas of Belen, vice-president; Dr. Albert M. Rosen of Taos, president; Dr. W. J. Hossley of Deming, president-elect; Dr. Junius A. Evans of Las Vegas, secretary; second row: Dr. E. Kay Bryan of Parkview, director; Dr. L. L. Daviet of Las Cruces, director, and Dr. W. H. Peacock of Farmington, director.

BETWEEN SESSIONS...

Upper left: Mrs. S. F. Hutson of El Paso chats with Bob Hoover of Southwestern Surgical Supply (center) and Dr. George Richardson of Albuquerque. At the upper right, Lou Lagrave of Albuquerque (left), executive director of the New Mexico Physicians' Service, stands by the progress report of the Physicians' Service Plan with Dr. Edward Parnall of Albuquerque (center) and Dr. John F. Conway of Clovis, president of New Mexico Physicians' Service and retiring president of the New Mexico State Medical Society.

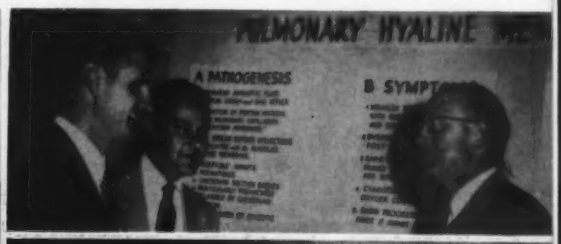
Chatting between sessions at left were, (left to right) David Brown of Burroughs Wellcome & Co.; Dr. Frank B. Queen of University of Oregon, a convention speaker, and Dr. John B. Farley of Pueblo, Colo. Above, at registration desk were Mrs. Harold J. Beck of Albuquerque and Mrs. Samuel J. Jelso, both of the Bernalillo County Medical Society Auxiliary together with Dr. Jelso.

CONVENTIONS CAN BE FUN!

Smiling faces were apparent almost everywhere during the meetings. Upper left Dr. George M. Schlenker of El Paso, Dr. George J. Gore of Albuquerque (center) and Dr. Jean Hess of Albuquerque. Left center shown Dr. Wesley O'Connor, Dr. H. J. Beck and Dr. C. M. Thompson, all of Albuquerque. Lower left, Dr. and Mrs. H. M. Gibson of El Paso exchange pleasantries with Dr. Joseph Gordon of Albuquerque. Below, Dr. Jim C. Sedgwick (left) of Las Cruces enjoys a laugh with Dr. Carl H. Gellenthien of Valmora, N. M., immediate past vice-president of the American Medical Association.

VISITING EXHIBITS...

Dr. W. D. Dabbs of Clovis (left) and Dr. Al Haynes of Clovis (right) discuss new products with R. J. Friesen at the E. R. Squibb and Sons exhibit booth at left, while at right Ciba representative Doug Spencer of Albuquerque chats with Dr. H. W. Hodde of Hobbs (right).



The Lederle exhibit was a busy place. Sales Representatives W. S. Tuckey (left) and C. S. Serns (right), show products to Dr. Libby Marks and Dr. H. V. Beighley, both of Albuquerque. Upper right finds Dr. Guy Rader of Albuquerque and Dr. Ira Budwig, Jr. of El Paso and Dr. Albert S. Lathrop of Santa Fe looking at exhibit of Pulmonary Hyaline Membranes. Lower right Dr. Pete Starr of Artesia and Dr. Leland S. Evans of Las Cruces look at the exhibit of the New Mexico Chapter of American Academy of General Practitioners.

Above left, R. Keith Milheim of Parke, Davis & Company talks shop with Drs. R. C. Bitterlich, R. R. Secrest and W. C. Peterson, all of Albuquerque. Above right, Dr. T. B. Hoover of Tucumcari (left) and Dr. Louis W. Breck of El Paso pause in front of the exhibit depicting off-reservation care of tuberculosis in the Navajo child. Below left Joe Lomiglio of Ayerst Laboratories (left) shows his exhibit to Dr. B. B. Wells, Creighton University medical professor, while A. E. Peterson of Ayerst looks on. Below right, Chet Cardell of Allied Medical Supply talks with Dr. E. Kay Bryan of Parkview, N. M. (right).

AT CONVENTION EVENTS

1. Dr. Robert E. Derbyshire of Santa Fe and Dr. J. A. Dillahunt of Albuquerque paused for a coke and chat with Mrs. Georgia Ritchey.

2. Stopping at the registration desk was Dr. Roy R. Robertson of Albuquerque where Mrs. Suesanna Real (left) and Mrs. George Richardson were holding forth. In background is T. B. Moore of General Electric.

3. Together in corner were Drs. H. C. Jernigan of Albuquerque, William I. Coldwell and W. P. Stratemeyer of El Paso.

4. Dr. E. W. Lander of Roswell (left) and Dr. John J. Malee of Anaconda, Mont., president of Montana Medical Association.

5. Ralph Marshall, executive secretary of New Mexico Medical Society, (right) checks convention detail.

6. Dr. W. W. Kridelbaugh of Albuquerque (left), Dr. Frank B. Queen of University of Oregon Medical School (center), and Dr. J. C. Jones of Cody, Wyo.

7. All Tulane Medical School grads are Dr. John Craig of Albuquerque, Dr. Bob Crossett and Dr. R. N. Caylor, both of El Paso.

8. Dr. Morton L. Dunkin of Albuquerque, Dr. L. J. Miller of Albuquerque and Dr. W. A. Jones of El Paso.

9. Dr. Randolph V. Seligman of Albuquerque in a corner.

10. Dr. L. R. Dragstedt of University of Chicago and Dr. William R. Oakes of Los Alamos.

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ANDID

Principal Speakers

Principal speakers at the meeting were Dr. Phillips Thygeson of the University of California; Dr. L. Henry Garland of Stanford University; Dr. Frank B. Queen of the University of Oregon; Dr. Merl J. Carson of the University of Southern California; Dr. Lester R. Dragstedt of the University of Chicago; Dr. Harvey C. Slocum of the University of Texas; Dr. John DeJ. Pemberton of the Mayo Clinic; Dr. William T. Foley of Cornell University; and Dr. B. B. Wells of Creighton University, Omaha.

Mrs. George Turner of El Paso, president of the Women's Auxiliary of the American Medical Association, was principal speaker for the meeting of the auxiliary of the New Mexico Medical Society. Mrs. Turner is the wife of Dr. George Turner, past president of the Texas Medical Association.

Dr. Rosen Named President of N. M. General Practitioners

New officers elected at a meeting of the New Mexico Chapter of the American Academy of General Practice were Dr. Albert M. Rosen, Taos, N. M., president; Dr. W. J. Hossley, Deming, N. M., president-elect; Dr. Jose A. Rivas, Belen, N. M., vice-president; Dr. Junius A. Evans, Las Vegas, N. M., secretary-treasurer; and Drs. E. Kay Bryan, Parkview, N. M., L. L. Daviet, Las Cruces, N. M., and W. H. Peacock, Farmington, N. M., all directors. Dr. Leland S. Evans of Las Cruces, N. M., was the retiring president.

Dr. Evelyn Frisbie, who has practiced medicine in Albuquerque since 1911, was elected "doctor of the year" by the Society.

Loss of Fluid During Work

Until they become acclimatized to heat, persons doing hard work in hot environments may vaporize 10 to 12 liters a day. This sweat may contain as much as 75mEq of NaCl per liter.

§ § §

Antihistamines Mildly Diuretic

Antihistamines have been found to be mildly diuretic.

§ § §

Salt Lost in Surgery

It is often not realized that when a large volume of fluid is removed from the chest by thoracentesis, or from the abdomen by paracentesis, dissolved salt is being removed simultaneously. Administration of salt may be indicated in some of these patients.

Ob-Gyn; Surgery Sessions Set For El Paso Postgraduate School

A session concerned in the morning with obstetrics and gynecology and in the afternoon with general surgery has been scheduled by the El Paso Branch of the Postgraduate School of Medicine of Texas University Sunday, June 19, in the El Paso County Medical Society's Turner Home, 1301 Montana Street.

Attendance by members of the American Academy of General Practice will give eight hours credit in graduate studies.

Visiting lecturer at the morning session will be Dr. Felix Rutledge, Houston gynecologist, who will discuss "Cancer and Gynecology." Visiting lecturer for the afternoon session will be Dr. Howard T. Barkley, associate professor of clinical surgery, University of Texas, Houston, who will talk on "Cancer and General Surgery."

Dr. Ralph H. Homan of El Paso is assistant dean of the postgraduate school in charge of the El Paso Branch.

Previous sessions of the Postgraduate School in El Paso have been attended by many physicians from Arizona and all parts of New Mexico as well as from West Texas. Physicians from Mexico are invited and have attended earlier sessions.

The program for the June 19 session follows:

Morning Program: Gynecology and Obstetrics

A. Prenatal care
Dr. Gray E. Carpenter, El Paso 8:00

B. Management of labor (prolonged)
The Management of Erythroblastosis
Dr. Clement C. Boehler, El Paso 9:00

Cancer and gynecology
Dr. Felix Rutledge, Houston 10:00

Obstetrical emergencies
Dr. Robert J. Cardwell, El Paso 11:00

These papers will be 40 minutes long and there will be about a 15-minute question and answer period and a five-minute break after each paper.

Afternoon Program: General Surgery

Fluid and electrolyte problems in the surgical patient
Dr. Antonio Dow, El Paso 1:00

The acute appendix
Dr. Ward Evans, El Paso 2:00

Cancer and general surgery
Dr. Howard T. Barkley, Houston 3:00

Management of injuries of the chest
Dr. E. S. Crossett, El Paso 4:00

ORIGINAL ARTICLES

Basic Principles in the Treatment of Fractures*

BY LOUIS W. BRECK, M. D., EL PASO

Introduction

It would seem to me that a short review of the basic concepts in the matter of fractures would be very well worthwhile, following which I will present some illustrative cases. For many years there has been a saying that there are four R's in connection with the subject of fractures. These four R's are Recognition, Reduction, Retention, and Restoration of function. Each of these will be discussed separately.

Classification of the Subject of Fractures And Discussion of Each Phase

The recognition of a fracture is sometimes very simple and at other times may be very difficult. The most important thing in connection with the diagnosis of a fracture is the matter of suspecting its presence. The x-ray is the most important diagnostic factor in the situation and is all important. In any injury even of a very slight nature, an x-ray should be made and reliance placed on the x-ray for the final diagnosis. The other corroborative findings in fracture recognition are important but not nearly so important as the x-ray. Severe swelling is an important sign. Crepitation of the bone ends is in most cases diagnostic of a fracture. Angulation at the fracture site is usually diagnostic of a fracture. In general it is better not to thoroughly examine and palpate the affected part because of the chance of increasing shock or damage to the soft structures. Following making the x-ray if there is any serious doubt about the situation further examination may be done.

A very important consideration in connection with x-raying fractures is that of taking more than one set of films in a case where pain persists. If a patient has an injury that may be suspected of being a fracture and the x-ray proves negative, this does not always rule out the fracture positively. If the patient continues to complain of pain in the same area an x-ray made one or two, or even three weeks later will often show a fracture where none could be seen in the original film. What has happened is that a fracture consisting of a very fine line has either opened up somewhat or during the process of healing has developed a much more clearly fracture line.

The next two R's of reduction and retention constitute the treatment of fractures and I will discuss these in some detail later on in this discussion. Reduction obviously means the setting of a fracture or replacing it into proper position. Retention obviously means holding it there either by means of external fixation, internal fixation or one of the other methods of holding a fracture in position.

The restoration of function following a fracture is a very vast subject in itself. The specialty of physical therapy deals with this restoration of function. However, in the average fracture of times, simple home physical therapy done by the patient with the help of his family will restore function satisfactorily and no formal physical therapy is necessary. It is not within the scope of my remarks to go into detail in regard to the restoration of function and rehabilitation of fracture cases.

Resourcefulness

I would like to add another R to the treatment of fractures. I call this the 5th R of the subject of fractures. This is resourcefulness. By resourcefulness I mean the availability of different methods of treatment for each fracture that may be encountered. Different principles of fracture treatment apply under different circumstances even where the fracture is located in the same place in the bone. Some of the things that determine this are different types of fractures in the same location. An example of this may be found in a fracture of the shaft of the femur. If the fracture is a transverse or slightly oblique fracture in an adult, intramedullary fixation is usually the most desirable method of treatment. On the other hand, in the same age group if the fracture is severely comminuted usually treatment in traction will prove more satisfactory.

The age of the patient may be a determining factor in the treatment of a fracture. Again I will refer to fractures of the shaft of the femur. A simple femoral shaft fracture in an adult is usually best treated with intramedullary fixation as referred to above. On the other hand a similar fracture in an

* Presented at the Big Bend Counties' Medical Society meeting at Fort Stockton, Texas on May 11, 1954

infant or child is usually best treated with Bryant's overhead traction.

The aged group of patients sometimes require special treatment but usually principally due to their disability due to age rather than age per se. Usually an old person in good general health will be amenable to the same type of treatment as a young individual with the same fracture.

Special Problems

The debilitated and head injury cases present special problems. A seriously ill patient will frequently not withstand a large major operation for the open treatment of a fracture whereas a well person can easily withstand it. Head injury cases present a special problem since the neurosurgeon will usually not permit the treatment of the fracture with definitive treatment for some weeks after the head injury if the patient's head injury is severe. In these cases it is frequently necessary to simply temporize in regard to the treatment of the patient's fracture (I am not referring to a skull fracture) and then at a later date definitive adequate treatment can be instituted.

The availability of a considerable number of methods of treament of each fracture is a very important factor in the treatment of fractures and cannot be over-emphasized. The correct method of treatment for each case should be used rather than trying to make all fractures of a certain kind fit exactly into a certain pattern of treatment.

Basic Methods of Fracture Treatment

Originally there were three primary methods of fracture treatment. These consisted of (1) a closed reduction and the application of a cast, (2) traction and (3) open reduction and rigid internal fixation. Two additional methods have been added in the last 20 years. These are (1) double fixed traction (such as the Roger-Anderson method) and (2) open reduction and sliding internal fixation.

As far as a closed reduction and cast is concerned, I only have a few remarks to make in this connection. I believe that anterior and posterior molded splints are as a whole very much better than circular casts. This applies especially to the wrist and elbow but also applies to other locations. By using anterior and posterior molded splints and bandaging them on with gauze bandage it is very easy to release tension that may develop due to swelling. All that has to be done is to cut the bandage along the side, allow the splints to separate slightly and then re-bandage them. With a circular cast disastrous swelling may occur in some instances and produce various types of pressure complications. These include pressure sores, nerve paralyses, and severe vascular phenomena such as Volkmann's ischemic paralysis or even vascular occlusion in rare instances. Although we do not have an absolutely hard and fast rule about the matter our general rule is that we do not apply a circular cast in the case of a fresh fracture. We do frequently circularize anterior and posterior molded splints at a later date. Another advantage of the anterior and posterior molded splint is that as swelling subsides and the extremity shrinks the anterior and posterior splints can be bandaged more tightly and thus take up the slack which develops. Two or three weeks after the fracture the circularization may be done.

Several Points

A discussion of traction is not particularly indicated except to touch lightly on several points. Skin traction is a good method of making traction in cases where not over six pounds is going to be required and where a period of no more than six weeks traction is anticipated. The adhesive tape strips (or moleskin if the surgeon prefers) should be secured primarily by means of a woven elastic circular bandage such as an Ace bandage. This woven elastic bandage should be removed and replaced once or twice a week to keep the adhesive tape smoothly and firmly applied. Circular strips of adhesive tape are not desirable as they tend to constrict the circulation. Before the adhesive tape traction is applied the leg should be thoroughly cleansed using ether as the last cleansing agent. In this way folliculitis under the cast may usually be avoided.

Open reduction and internal fixation has been practiced for many years. With the currently used vitallium or stainless steel applances much more liberty may be taken in leaving buried material in or on the patients' bones. Screws, plates, stainless steel wires, pins and numerous other devices are commonly used much as they have been in the past.

Double fixed traction is the generic word applied to multiple pin fixation. One or two pins may be placed through each fragment. The fracture may then be reduced and the pins connected with either a plaster cast or more commonly with some type of connecting apparatus. The more popular types of this apparatus are the Roger-Anderson apparatus, the Stader apparatus, and the Zimmer apparatus. Although these methods have been very popular during one period in the past it is felt at present that while they have great usefulness at times their field of usefulness is quite limited.

Last Method

The last method of treating fractures is by means of an open reduction and sliding internal fixation. The most common example of this is by means of intramedullary fixation. Intramedullary fixation has become increasingly popular and there are many different devices for securing intramedullary fixation. The Hansen-Street nail or the Clover-leaf nail for fractures of the shaft of the femur are excellent devices and offer the best method of treating most femoral shaft fractures in adults. The Kuntcher nail has considerable usefulness in some fractures. The Lottes nail is very effective in the treatment of fractures of the tibia in many instances. Steinmann pins with threads on one end may be used in fractures of both bones of the forearm with good results in well selected cases. Fractures of the clavicle which require open reduction can be treated by intramedullary fixation with a high percentage of union. The Rush pin has been popularized a great deal lately and has some usefulness in certain fractures. There are numerous other types of intramedullary fixation but the ones referred to above are the most common.

Another type of sliding internal fixation is the Eggers slotted plate or internal splint. The principle involved here consists of applying a plate with slots in it and applying so that it is just a little loose which allows the bone ends to slide together during the course of union.

Another example of sliding internal fixation is the ordinary Smith-Peterson nail which is used in the treatment of fractures of the neck of the femur. Here again the bone ends are allowed to slide together during the course of union.

The basic principle in intramedullary fixation is to allow the bone ends to come in contact during the course of union rather than keeping them held apart by means of rigid internal fixation. The contact compression factor as described by Dr. Eggers is all important in the healing of fractures and intramedullary fixation allows the bone ends to come together thus increasing the chances of a satisfactory union in the fracture.

Cases illustrating each of these methods will be presented but it is not within the scope of the written paper to present these cases.

Summary

The four R's of the treatment of fractures are described. These are recognition, reduction, retention and restoration of function.

A 5th R of fracture treatment is presented and discussed. This consists of resourcefulness or the availability to the surgeon of numerous methods of fracture treatment for each fracture. This is felt to be of great importance.

The five basic methods of fracture treatment are described and discussed. These consist of closed reduction and cast, traction, open reduction and rigid internal fixation, double fixed traction, and open reduction and sliding internal fixation.

Dr. Shaffer Elected President of Texas Dental Association

Dr. O. J. Shaffer of El Paso was elected president of the Texas Dental Association at the group's annual meeting in San Antonio May 4.

Dr. O. J. Shaffer

Dr. Shaffer succeeds Dr. C. M. Taylor of Houston.

Born in Hamilton County, Texas in 1894, Dr. Shaffer attended school in Merkel, Texas and then was graduated from Atlanta Dental College, now Emory University, in Atlanta, Ga., in 1917 with a degree in dental surgery.

A fellow in the American College of Dentists, he is a member of the International Association of Physicians and Dentists, American Board of Oral Surgery, West Texas Dental Association, American Academy of Oral Roentgenology, and the El Paso District Dental Society.

He has attended the New Mexico State Dental Association conventions for the past 23 years and holds a license to practice in that state.

Dr. Shaffer was a member of the Texas State Board of Dental Examiners for six years, from 1947 to 1953.

The El Paso dentist will serve as head of Texas Dental Association until the 1956 meeting which will be held in Fort Worth.

Dr. Shaffer is the father of three sons. His home is at 3128 Federal Street.

MONTHLY CLINICAL PATHOLOGICAL CONFERENCE
EL PASO GENERAL HOSPITAL

APRIL 21, 1955

FREDERICK P. BORNSTEIN, M.D., EDITOR
CASE PRESENTATION BY DR. H. M. GIBSON

Case No.: 4724

CHIEF COMPLAINT: Hematuria.

HISTORY: This 90 year old white man had diabetes for 10 years and has been complaining about head ache and dizzy spells for the last few years. A few days before admission he noticed blood in his urine.

PHYSICAL EXAMINATION: Examination reveals an elderly, confused man; temperature 98.6°, pulse 72, and blood pressure 160/80. The head is not remarkable. Heart sounds are clear, no murmur. There are a few irregular premature systoles. No masses are palpable in the abdomen. Rectal examination shows an enlarged "three plus" soft prostate without nodules.

LABORATORY FINDINGS:

Red blood count 3,7000,000; white count 4,900; differential count normal.
Urinalysis: Specific gravity 1.018; albumen four plus; sugar one plus; numerous red and white cells in sediment.
Blood Chemistry: Sugar 268 mm. per 100 cc.; urea nitrogen 19.8 mm. per 100 cc.
Alkaline phosphatase: 1.2 Bodansky units.

X-RAY FINDINGS:

5-1-53 Chest and Abdomen: Chest—bilateral pulmonary emphysema. Peripheral arteriosclerotic vascular disease. No evidence of metastases of the bony thorax or lung fields. Abdomen negative for evidence of intestinal obstruction. Findings consistent with chronic and renal calculi. Peripheral arteriosclerotic vascular disease. Findings consistent with prostatic metastases of the lumbar spine and pelvis. Acid phosphatase studies recommended for confirmation.

5-6-53 I.V.P.: Normally concentrating right kidney. Decrease in function on the left. Findings consistent with renal calculi. Peripheral arteriosclerotic vascular disease. Findings consistent with metastases to the lumbar spine and pelvis. An osteitis deformity cannot be excluded. Alkaline and acid phosphatase recommended for confirmation.

COURSE IN HOSPITAL: The patient presented a difficult nursing problem. He was confused and disoriented during his entire stay. A urological consultation was done on the fifth day of admission. Impression: "This is a benign prostate under manual examination." The patient became progressively weaker in spite of digitalis medication and showed principally signs of cardiac failure. He died 15 days after hospital admission.

TREATMENT: Treatment consisted mainly of effort to control his diabetes. In addition he received Gantrisin [Hoffman La Roche], Combiotic [Pfizer] and stilbesterol.

X-RAY DISCUSSION

Dr. C. C. McVaugh:

The original examination on the first of May, 1953, was of the chest and abdomen. The chest X-ray reveals nothing too unusual. There is some cardiac enlargement and changes in the aorta consistent with old cardiovascular disease, probably hypertensive in nature. There are faint linear thickenings in both bases which may be caused by old pleural changes or infarction. There is no evidence of bony involvement by a destructive process. There is no evidence of a pulmonary congestion. Survey films of the abdomen reveal bilateral renal calculi. There is a large calculus filling the inferior calix of the right kidney. There is a faint calculus which I believe represents a small staghorn calculus in the left kidney. The right kidney appears to be fairly normal, as well as I can define it, in size, shape and position, and appears regular in outline.

Left Kidney

I cannot definitely identify the contour of the left kidney. It looks as if it might be enlarged. I can't be certain about that because I can't identify the kidney adequately. The most remarkable finding on this survey film of the abdomen consists of the marked sclerotic changes involving the pelvis and the lumbar vertebrae. I see no changes in the ribs. I do not believe that these changes are due to prostatic metastases. I believe they are due to Paget's disease. The changes are characteristic of Paget's; however, they are often difficult to differentiate from metastatic carcinoma.

Intravenous Pyelogram

Five days after the original examination, an intravenous pyelogram was done, and you can probably see dye appearing in the right kidney in good concentration after five minutes. I see no dye in the left kidney at any time during examination. Again, I cannot definitely outline the left kidney shadow, and I feel reasonably certain that there is no dye in the left kidney, and therefore it is a non-functioning kidney. The inference might be that the kidney might be absent, but I don't think it is, because I believe there are stag-horn calculi on the left. Therefore, the kidney may be enlarged and fused with the surrounding tissues, thus making it impossible to outline the kidney.

History of Bleeding

As far as the history of bleeding is concerned, in the male the bleeding may come from anywhere in the urinary tract, the bladder, the kidney, or the prostate. I see no prostatic calculi; perhaps there is one small, faint calculus there. I cannot see any evidence of a tumor in the right kidney. The left kidney could be the source of a tumor, and as a result of its being enlarged it cannot be visualized because the enlargement itself may destroy the natural countours. So, radiographically we can conclude only that this man has a non-functioning left kidney with bilateral renal calculi, Paget's d i s e a s e, marked arteriosclerotic disease and possibly, prostatic calculi.

DIFFERENTIAL DIAGNOSIS

Dr. H. M. Gibson:

This represents a type of case in which we get mixed up very often. A senile, sometimes psychotic old gentleman is brought into the hospital and dies within a short time. When we're faced with such a problem as this, we try to do certain things. First of all, we try to give the patient supportive treatment, bring him out of the critical condition that he's frequently in. If we can do that, then we carry out detailed diagnostic procedures and then lastly, if possible, we take what corrective measures we can, either surgically or medically.

Problem

In this particular patient, we are presented with a problem that resolves itself into a differential diagnosis of hematuria. We do not know just how much this man bled. We do not know whether it was just a slight gross bleeding or whether it was a very severe exsanguinating type of hemorrhage. It would be of tremendous value to know what type of bleeding this particular patient had, and also whether or not he hadn't had some bleeding before the time stated in the history. We notice from the history that the old man had diabetes, that he has had it for some ten years.

Physical Examination

On physical examination, the only positive urological finding recorded is the fact that he had a three plus enlarged prostate, soft, boggy, and recorded as being benign. It is recorded that there were no masses felt in the abdomen. That could be true, but it is quite easy to overlook masses in the region of the left kidney. Unless the physician, during the examination, takes the trouble to put one hand in the region of the costo-vertebral angle and the other anteriorly, and ballott whatever is between those two hands, you can very easily miss even quite a large mass in the region of the kidney, particularly the left, as the left kidney is always higher than the right.

Laboratory Work

From the laboratory work we find that the patient had only a very mild disturbance of his renal function. This is confirmed by the intravenous pyelogram, an IVP being a very excellent test of renal function. The roentgenological lesions in the bone are osteoblastic in character and to me appear to be more suggestive of some other disorder than of a metastatic lesion from the carcinoma of the prostate. I think I can see a few trabeculae through these dense areas, which is supposed to be one very important point in favor of Paget's disease over metastatic lesions from the prostate. In addition, this patient's prostate was recorded as feeling benign. It is certainly granted that a prostate can feel benign in absolutely every respect and yet be malignant, although it cuts down on the percentage that this is a metastatic lesion from the prostate. I am more in favor, then, of a Paget's disease.

Attempt to Localize

First we try to localize where we think this hematuria is coming from, if we have any signs to help us at all. Usually, if the bleeding is from the prostate, it will come either initially or terminally. Usually the bleeding from the prostate will pop out in front of the urinary stream. It can leak back into the bladder and be passed out as total hematuria. However, the patient usually complains of frequency and discomfort and other blunter symptoms when the prostate is the source of the bleeding. In hematuria in general, only two percent of the cases are produced by the

prostate. It is extremely dangerous to assume that bleeding is coming from the prostate. We pass on to the bladder.

Bleeding From Bladder

Bleeding from the bladder is usually constant, and in a man of this age you would suspect that it would go on for a long period of time if it were due to a papillary growth in the bladder. You would suspect that he would give us a history of having passed blood intermittently through a period of many, many years. In addition to the bleeding, these patients frequently have bladder symptoms such as extreme frequency and dysuria. This is especially true if they are allowed to go on and on, and their cancer invades the muscular portion of the urinary bladder. This patient apparently did not. He came in with the single complaint of blood in his urine. Bleeding from the upper urinary tract is frequently characterized by colicky pains on one side or the other. We don't know whether this man had them or not.

Apparently Senile

He was apparently so senile that he did not mention whether or not he did have pain or colic on one side or the other. So we have to go to our X-rays to try to determine the source of the bleeding. The X-rays show definitely a right kidney, and it appears to be a reasonably good kidney although it does have a calculus in the lower calix. On the left side there are some tiny little shadows which might mean that a little bit of dye is being excreted. We cannot see any evidence of an obstructive lesion lower down along the course of the ureter. From this reading, I am inclined to believe that this patient's bleeding was probably coming from his left kidney. Now, what produces bleeding from the left kidney?

Renal Apoplexy

You could have just a renal type of apoplexy; it's very common in people like this, but it shouldn't interfere that much with the kidney function. You could have other vascular disturbances such as infarction of a blood vessel in that area. You could have some tumor formation in this kidney, which I think is a distinct possibility. The pattern that we have here, I think, would perhaps favor more a tumor of the urothelium, either in the pelvis of the kidney or someplace in the ureter. A stone could possibly be producing the hematuria, but again, we should have some colic present. So, in summary I have to make these diagnoses:

1. A benign prostatic hypertrophy with a question of malignancy.
2. Right renal calculi; probable left renal calculi.
3. Questionable pathology of the left kidney, probably a tumor of the left kidney arising from urothelial elements on that side.

SYSTEMIC DIAGNOSES:

1. Diabetes mellitus.
2. Generalized arteriosclerosis.
3. Arteriosclerotic heart disease.
4. An osteoblastic condition of the bones of the pelvis and lumbar vertebrae, probably Paget's disease.

Dr. J. C. Postlewaite:

I believe that one ought to review the possible causes of death. No doubt the man died a cardiac death. The question is whether his metabolic diseases were unusual or usual, and if the terminal stage was a complication of a metabolic failure. This man was a diabetic. His blood sugar was very low, 286 mg. percent. He had headaches and dizziness. We didn't get visual fields and various things to make it interesting, but one would want to know if there was another cause of his diabetes besides pancreatic disease, such as pituitary diabetes, hepatic diabetes, and of course the low threshold renal problem of just spilling sugar.

Spilled Sugar

We didn't notice whether he spilled sugar very regularly. They mentioned that a great deal of effort was made to regulate his metabolic condition. I would presume, though, that this was salt and water rather than his sugar metabolism. A man of ninety is rarely a severe diabetic, unless some infectious process has precipitated him into coma rather rapidly. The other metabolic problem was the condition of the papillary processes of his calices. I'm told that a retrograde pyelogram will occasionally show disease of the papillary processes, and presumably an IV pyelogram is impossible in such a condition because the kidneys won't excrete anything. They behave like a lower nephron nephrosis and everything is absorbed from the tubules.

No Relationship

I see no relationship between the kidney disease and the bone lesions which have been named Paget's disease. Finally, there is a possibility that he died in uremia, although we have evidence that his kidneys functioned well, both from the pyelogram and from the renal studies preceding his death. I believe that his diabetes was of pancreatic origin rather than pituitary.

Cardiovascular

I believe that his death was cardiovascular primarily, but secondarily due to the push he got from the infectious process in his kidneys. Finally, he may have suffered an acute apoplectic collapse with renal papillitis. For this occurrence you have to have obstruction, you don't necessarily have to have infection, and you have to have vascular injury. This apparently occurs in approximately 25 percent of diabetics. I was rather surprised to note this on a recent review.

Dr. F. P. Bornstein:

I'd like to have somebody comment on the question, "Why did this man get stilbesterol?"

Dr. W. I. Coldwell:

I've been lead to believe that the alkaline phosphatase was 1.2 Bodansky units. I think this rules out the diagnosis of Paget's disease. I've never seen a case that didn't have an elevated alkaline phosphatase. In two places they recommended an acid phosphatase be done. I don't know whether that was left out purposely, or just not done. I think it would add some assistance to this case. With regard to the administration of stilbesterol, it appears that someone thought that he might have metastatic lesions. I would like to ask Dr. Gibson if it is not entirely possible that he could have had a carcinoma of the prostate, even with the apparent normal physical findings of the prostate.

Dr. H. M. Gibson:

I do not know precisely why estrogen was given, except that in many similar instances I have advised that estrogen be given as a therapeutic test. It's simple and it's extremely effective in these old people that you can do absolutely nothing else with. It's something to keep in mind. When you have some old person that you can't do anything else with and where there is a question of prostatic carcinoma, you can put them on estrogen. Usually, if the process is a carcinoma of the prostate, within a week the patient will receive a tremendous benefit from this medication.

Excellent Test

It's a very excellent therapeutic test. As to Dr. Coldwell's question, "Does a benign-feeling prostate exclude a carcinoma of the prostate?", as stated previously, it does not absolutely and unequivocally rule it out. We have seen many cases where the patient would have a completely benign-feeling prostate and the patient would have a carcinoma; however, it does certainly decrease the probability that the patient has a carcinoma of the prostate.

CLINICAL DIAGNOSIS:

1. Generalized arteriosclerosis.
2. Arteriosclerotic heart disease.
3. Carcinoma of prostate with bone metastases.

DR. GIBSON'S DIAGNOSIS:

1. Benign prostatic hypertrophy with a question of malignancy.

2. Right renal calculi; probable left renal calculi.

3. Questionable pathology of the left kidney, probably a tumor of the left kidney arising from urothelial elements on that side.

ANATOMICAL DIAGNOSIS:

1. Generalized arteriosclerosis.

2. Coronary sclerosis.

3. Clear-cell carcinoma of kidney with multiple metastases to vertebrae and pelvis.

PATHOLOGICAL DISCUSSION

Dr. F. P. Bornstein:

On autopsy we found, as was to be expected, a heart with severe arteriosclerosis, and I am quite sure that death was due to cardiac failure.

The main interest in this case naturally centers on the findings in the urogenital tract. We failed to find any stones in the right kidney. However, on microscopic examination, a severe pyelonephritis was present. The left kidney had been transformed into an enlarged, irregular mass which measured approximately 20 x 15 x 8 cm. The capsule stripped with difficulty. Only the lower pole of the kidney showed the normal renal appearance. The remainder had been transformed into a hemorrhagic nodular tumor.

Metastatic Carcinoma

On microscopic examination (Figure 1) this tumor had the typical appearance of a clear-cell carcinoma. The prostate, as was expected, showed a benign nodular glandular hyperplasia. The bone lesions showed soft, greyish white, friable bone tissue which, on microscopic examination, revealed unequivocal metastatic carcinoma from the kidney.

It is interesting to note that in addition to the hematuria, the first indication of a

(1) Willis, *The Spread of Tumors in the Human Body* — First Edition, Page 192.

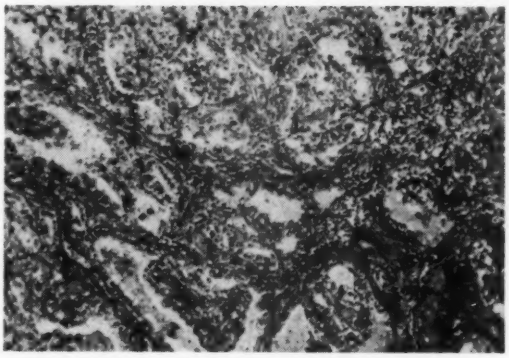

Figure 1

malignant process appeared in the skeletal system. We are usually in the habit of associating such skeletal metastases with carcinoma of the prostate.

Quite Common

However, bone metastases from carcinoma of the kidney are also quite common. As a matter of fact, Willis[1] devotes an entire chapter to pointing out the many occasions where metastatic lesions in the bones were mistaken for primary sarcomas, and unnecessary amputations were performed. As was mentioned before, the man had diabetes; however, no characteristic lesions were found in the kidneys.

In summary, then, this man who suffered from far-advanced coronary heart disease presented an interesting secondary problem of hematuria and bone lesions which were caused by a primary carcinoma of the kidney.

Current Therapy

(Continued from page 256)

daily; adolescents, 10-20 mgm. daily; premenopausal women 25-30 mgm. daily; postmenopausal women 30-37½ mgm. daily; men 37½-50 mgm. daily.

Glandular Enlargement

Dr. Brem (Defective Serum Gamma Globulin Formation) reported some cases of defective serum gamma globulin formation in cases with generalized glandular enlargement where there was a question of an existing lymphoma. Gamma globulin 10 cc. every five days was tried. ACTH had no effect.

Talked to some members of the College who are using Butazolidin with no untoward reactions. They are using small doses, 200 mg. daily, in some cases 400 mg., and they are following their patients carefully. Also talked to others who are using Gitaligin rather than digitalis, because of its greater margin of safety from toxic effects.

Optimal Diuretic Effect is Daylong

In maintenance therapy of congestive failure, as in treatment of diabetes, the optimal (diuretic) effect is daylong. It does not permit the alternation of Na and fluid output followed by Na and fluid reaccumulation, even within a 24-hour period.

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Safety of Organic Mercurials

Safety of organic mercurials in children has been conclusively demonstrated by clinical experience with pediatric cardiac patients.

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Edema May Warn of Pre-Eclampsia

In very early stages of developing preeclampsia, edema usually precedes hypertension and thus gives a warning sign.

In Viewing the VA Medical Program . . .

average length of stay in VA hospital

	Average (days)	World War II (days)	World War I & Other (days)
TB	205.8	203.6	210.2
NP	178.3	89.2	430.6
GMS	30.8	23.5	42.5

The average length of stay in VA hospitals for World War I veterans is considerably greater than for World War II veterans, which now comprise 76% of the total veteran population. The greatest pressure is yet to be exerted on VA hospitals as World War II veterans grow older and require increased medical care for disabilities unrelated to military service.

MEDICAL OFFICES AVAILABLE
- In -
Centrally Located Medical Building
Albuquerque Medical Center
109 Elm Street SE, Albuquerque, N. M.
BERGER, BRIGGS & COMPANY, AGENTS
215 Third Street SW, Albuquerque, N. M.

PROCEEDINGS OF THE NEW ENGLAND CARDIOVASCULAR SOCIETY

Observations on the Effects of Insulin Induced Hypoglycemia in Patients With Angina Pectoris

By Walter E. Judson, M.D., and William Hollander, M.D.,
Massachusetts Memorial Hospitals, Boston

Eighteen insulin tolerance tests were performed on 11 patients with hypertensive cardiovascular and/or coronary artery disease with angina pectoris. In addition to the changes in blood sugar following intravenous injection of insulin, usually at a dosage level of 0.1 unit per kg. body weight, the changes in serum potassium and sodium were likewise determined at 15 to 30 minute intervals for a period of two hours. Standard limb leads, I and II, and a single unipolar precordial lead, V-4, of the electrocardiogram were recorded simultaneously with brachial arterial pressure and a Dock or modified Dock ballistocardiogram using a direct-writing Sanborn Poly-Viso.

In none of the 11 patients did insulin induced hypoglycemia produce chest pain. Likewise in a patient with status anginosus, large and repeated doses of intravenous insulin associated with marked and prolonged hypoglycemia did not induce anginal pain. In this group the average mean fasting blood sugar fell from a level of 76 to 41 mg. per cent, the range of the falls being 25 to 54 mg. per cent. During the period of greatest depression of the blood sugar the patients experienced typical symptoms of hypoglycemia. One patient developed coma. The majority of the patients showed no changes in blood pressure and pulse rate. Electrocardiographic changes such as lowering, broadening, and inverting of the T-waves and occasional prolongation of the Q-T intervals were observed in all the patients except one. Five patients had transitory cardiac arrhythmias. In general, but not invariably, changes in serum potassium tended to parallel those of the blood sugar. Minor changes in some of the ballistocardiograms were observed.

Hexamethonium, a ganglionic blocking agent, was given to some patients in an attempt to block a release of epinephrine by the sympatho-adrenal system in response to insulin induced hypoglycemia. Although this agent blocked the symptoms arising from the hypoglycemia, it did not consistently alter the pattern of the blood glucose response to insulin nor prevent the changes usually observed in the electrocardiogram.

These data suggest that insulin induced hypoglycemia of the degree and duration observed in this group of patients with angina pectoris does not produce chest pain. The electrocardiographic alterations may be related to changes in serum potassium. It is therefore believed that the dangers of insulin-induced hypoglycemia in patients with coronary artery disease may have been overemphasized.

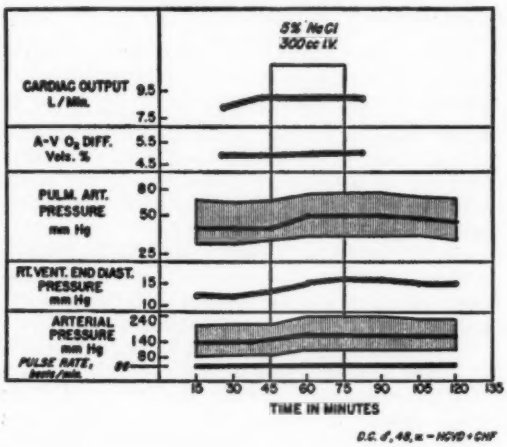
Cardiovascular and Respiratory Responses to Infusions of Hypertonic Saline in Patients With and Without Congestive Heart Failure

By William Hollander, M.D., Walter E. Judson, M.D., and Richard W. Stone, M.D.,
Massachusetts Memorial Hospitals, Boston

The intravenous administration of hypertonic saline, particularly in congestive heart failure, has a potential hazard of precipitating acute pulmonary edema by osmotically increasing the total blood volume. This study was undertaken both clinically and physiologically to evaluate this hazard in 46 patients, one-half of whom were in congestive heart failure.

After 300 cc. of 5 per cent NaCl was given intravenously over a 15-40 minute period, changes in symptoms and in cardiovascular and/or respiratory functions were recorded. The NaCl infusion produced an average decrease of 4 per cent in the hematocrit or about a 400 cc. increase in the total blood volume.

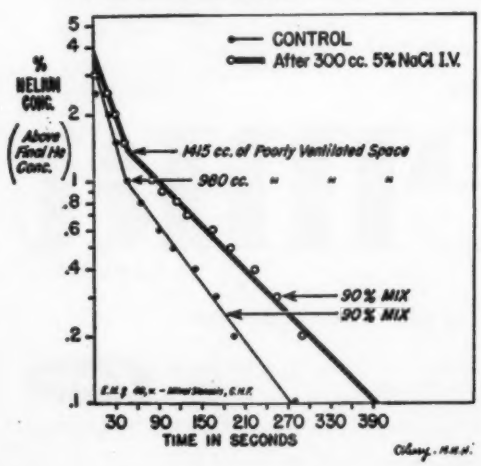
CARDIOVASCULAR RESPONSES TO AN ACUTE SALT LOAD IN A PATIENT WITH HEART FAILURE



D.C. ♂, 48, M. – HCVD + CHF

In contrast to normal individuals, patients with "low output" congestive heart failure had no change in cardiac output (Fick) but had significant rises in both the pulmonary artery and "pulmonary capillary" pressures, the average increase being 9 mm. Hg. Patients with cor pulmonale had similar increases in pulmonary artery pressures but, in addition, like normal individuals, they usually had increases in cardiac output. In all groups the cardiac output and pulse rate responses appeared to be independent of filling pressure.

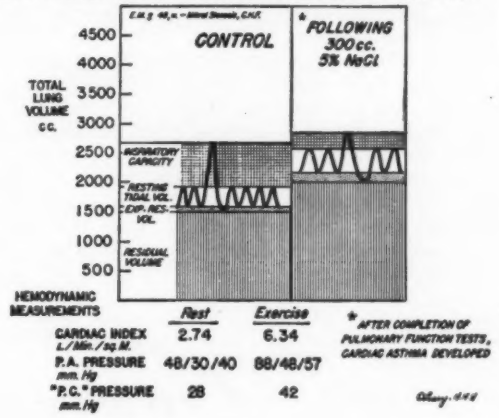
Gaseous Mixing Before & After I.V. Hypertonic Saline In a Patient with Congestive Heart Failure


CONTROL
After 300 cc. 5% NaCl I.V.
% HELIUM CONC. (Above Final He Conc.)
415 cc. of Poorly Ventilated Space
980 cc. " " "
90% MIX
90% MIX
TIME IN SECONDS

With the exception of two patients, no increased difficulty in breathing was experienced by patients either with or without congestive heart failure. In both groups there usually were no changes in pulmonary ventilation, subdivisions of the total lung volume and intrapulmonary gas (helium) mixing.

Acute pulmonary edema was precipitated in two patients who were in congestive heart failure with markedly elevated "PC" pressures. A respiratory pattern of acute obstructive emphysema consistent with bronchial spasm developed in one patient. Both patients had a history of cardiac asthma during exertion. The saline-induced pulmonary edema responded readily to the upright position.

CHANGES IN PULMONARY VENTILATION FOLLOWING INTRAVENOUS HYPERTONIC SALINE IN A PATIENT WITH CONGESTIVE HEART FAILURE



Conclusions

1. The intravenous administration of 5 per cent NaCl to patients in congestive heart failure, when given slowly, and with the patient sitting up, should present little danger of precipitating pulmonary edema.

2. Those patients who have a history of cardiac asthma at rest or during exertion are more apt to develop pulmonary edema, particularly when infused rapidly. In part the precipitation of pulmonary edema is most likely related to a supraoncotic elevation of the "PC" pressure.

3. It appears that, below a critical level, acute elevations of either the pulmonary artery or "PC" pressure do not cause or increase difficulty in breathing either in normal individuals, in patients in congestive heart failure or in patients with cor pulmonale.

The Effects of Acute Salt Loads on the Urinary Sodium Output of Normotensive and Hypertensive Patients Before and After Surgery: A Preliminary Report

By Jesse E. Thompson, M.D., Thomas F. Silva, M.D., and Reginald H. Smithwick, M.D.,
From the Departments of Surgery of Boston University School of Medicine
and the Massachusetts Memorial Hospitals, Boston

Evidence from various sources indicates that the metabolism of sodium in human hypertensives is probably different from that of normotensives. Hypertensives on low-salt diets tolerate such sodium restriction without difficulty, in marked contrast to the normotensive, and certain hypertensives will exhibit a lowering of blood pressure on such treatment. We have observed repeatedly that hypertensive patients following splanchnicectomy are more sensitive to sodium restriction than preoperatively, and that refractory postoperative patients may respond to only a moderate degree of sodium restriction. Recent experimental evidence has suggested that the splanchnic nerves may effect the handling of sodium by the kidney.

Acute salt loading tests have been performed on five normotensive and eight hypertensive patients before and immediately after surgery. The hypertensive patients were re-tested several months later. These hypertensives had bilateral thoracolumbar splanchnicectomy performed, and the normotensives had operations of comparable magnitude. With the patients thirsting and fasting and in the supine position, five hundred ml. of 5 per cent sodium chloride were infused intravenously during a one-hour period. The urinary sodium excreted before, during, and after loading was determined, as were plasma sodium concentrations. Maximum rates of sodium output and cumulative sodium outputs were calculated.

The data show that hypertensives handle an acute sodium load in a different fashion from normotensives, both before and after major surgery. Preoperative hypertensives reject a much higher proportion of infused sodium than do preoperative normotensives. Normotensives have a slightly lower rate of sodium excretion immediately following major surgery. Hypertensives excrete a greatly reduced proportion of infused sodium at a greatly reduced rate immediately following splanchnicectomy. Several months after splanchnicectomy the hypertensive excretes sodium at a slightly reduced rate, but not at an increased rate, compared with the preoperative rate.

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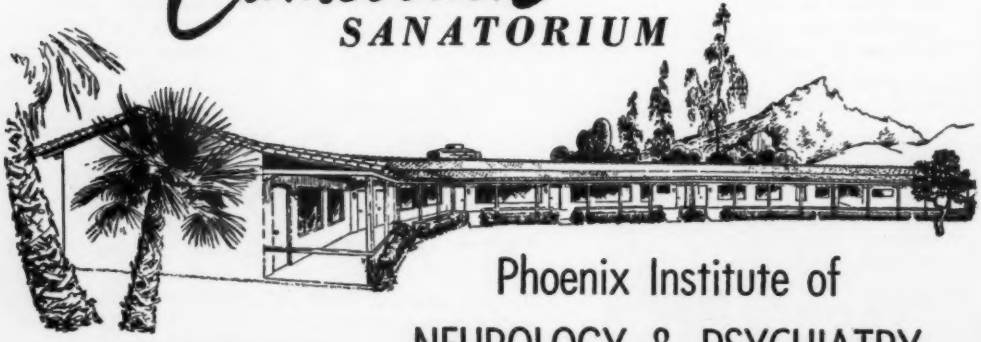

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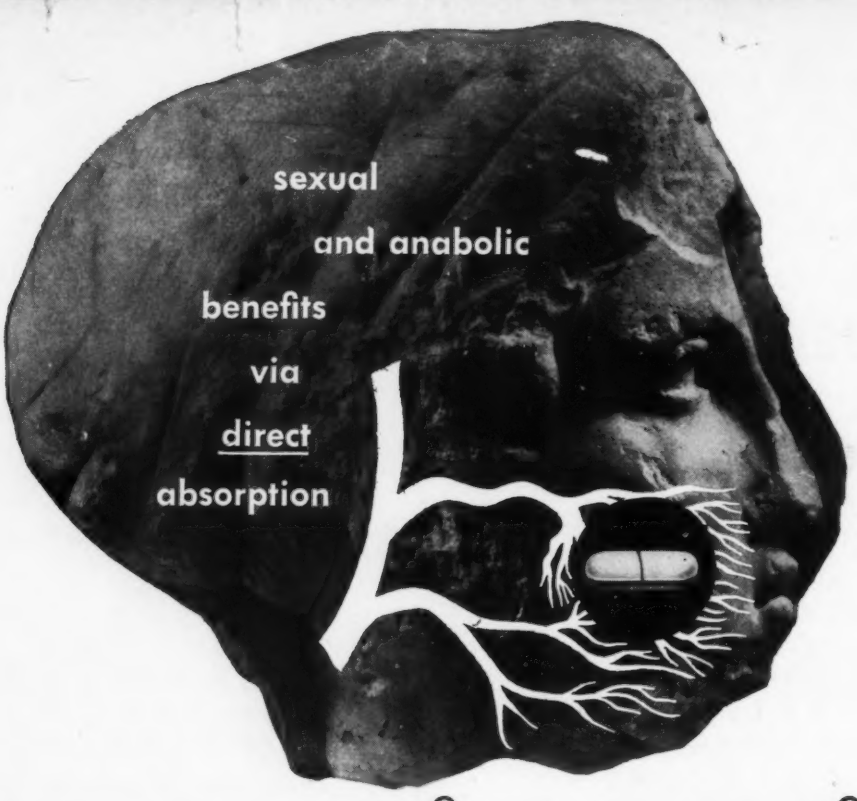

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